Claims

What is claimed is:

1. A method operable within a network switch for managing a broadcast tree, said method comprising the steps of:

constructing a pruned broadcast tree; and

forwarding received broadcast messages to other network devices in accordance with said pruned broadcast tree.

2. The method of claim 1 wherein the step of constructing is responsive to exchange of load balancing information between said network switch and other cooperating network devices.

3. The method of claim 2 wherein the step of constructing includes the steps of:

receiving a packet on a port within said network switch wherein said packet includes indicia requesting that said pruned broadcast tree include said port for future broadcast messages to an edge switch associated with said port; and

adding said port to said pruned broadcast tree for broadcast of messages to said edge switch in response to receipt of a first said packet.

4. The method of claim 3 wherein the step of constructing further includes the steps of:

receiving a packet on a port within said network switch wherein said packet includes indicia requesting that said pruned broadcast tree exclude said port for future broadcast messages to an edge switch associated with said port; and

deleting said port from said pruned broadcast tree for broadcast of messages to said edge switch in response to receipt of a first said packet.

5. The method of claim 3 wherein said packet is a cost acknowledgment packet.

6. The method of claim 1 wherein said network switch is coupled to at least one cooperating network switch in a common load balance domain,

wherein the step of forwarding includes the steps of:

receiving a broadcast message of said broadcast messages on a port of said network switch in said pruned broadcast tree; and

transmitting said broadcast message out all other ports of said network switch which are in said pruned broadcast tree.

7. The method of claim 6 wherein the step of forwarding further includes:

transmitting said broadcast message out other ports of said network switch connected to devices not in said common load balance domain.

8. The method of claim 1 further comprising the steps of:

sensing failure of a path associated with a port of said network switch on said pruned tree; and

updating said pruned broadcast tree in response to sensing said failure.

9. The method of claim 8 wherein the step of updating includes the step of:

determining a second port of said network switch which may be used for forwarding of broadcast messages; and

sending a packet out said second port indicative of devices to which broadcast messages may be forwarded via said second port.

10. The method of claim 9 further comprising the step of:

determining that other network switches depended upon said path of said network switch for broadcast to other devices; and

sending a packet from said network switch to said other switches

indicative of said failure of said path.

11. A network switch including a computer readable storage medium tangibly embodying a method operable within said network switch for managing a broadcast tree, said method comprising the steps of:

constructing a pruned broadcast tree; and

forwarding received broadcast messages to other network devices in accordance with said pruned broadcast tree.

12. The switch of claim 11 wherein the method step of constructing is responsive to exchange of load balancing information between said network switch and other cooperating network devices.

13. The switch of claim 12 wherein the method step of constructing includes the steps of:

receiving a packet on a port within said network switch wherein said packet includes indicia requesting that said pruned broadcast tree include said port for future broadcast messages to an edge switch associated with said port; and

adding said port to said pruned broadcast tree for broadcast of messages to said edge switch in response to receipt of a first said packet.

14. The switch of claim 13 wherein the method step of constructing further includes the steps of:

receiving a packet on a port within said network switch wherein said packet includes indicia requesting that said pruned broadcast tree exclude said port for future broadcast messages to an edge switch associated with said port; and

deleting said port from said pruned broadcast tree for broadcast of messages to said edge switch in response to receipt of a first said packet.

15. The switch of claim 13 wherein said packet is a cost acknowledgment packet.

16. The switch of claim 11 wherein said network switch is coupled to at least one cooperating network switch in a common load balance domain,

wherein the method step of forwarding includes the steps of:

receiving a broadcast message of said broadcast messages on a port of said network switch in said pruned broadcast tree; and

transmitting said broadcast message out all other ports of said network switch which are in said pruned broadcast tree.

17. The switch of claim 16 wherein the method step of forwarding further includes:

transmitting said broadcast message out other ports of said network switch connected to devices not in said common load balance domain.

18. The switch of claim 11 wherein the method further comprises the steps of:

sensing failure of a path associated with a port of said network switch on said pruned tree; and

updating said pruned broadcast tree in response to sensing said failure.

19. The switch of claim 18 wherein the method step of updating includes the step of:

determining a second port of said network switch which may be used for forwarding of broadcast messages; and

sending a packet out said second port indicative of devices to which broadcast messages may be forwarded via said second port.

20. The switch of claim 19 wherein the method further comprises the step of:

determining that other network switches depended upon said path of said network switch for broadcast to other devices; and

sending a packet from said network switch to said other switches indicative of said failure of said path.

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